

Name _____

Date _____

Topic 2: Proportional Relationships and Rates of Change

Solve the Proportions below

Video Help: <http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/v/find-an-unknown-in-a-proportion>

$$1) \frac{3}{5} = \frac{18}{x}$$

$$2) \frac{6}{8} = \frac{9}{x}$$

$$3) \frac{x-4}{x-6} = \frac{1}{3}$$

$$4) \frac{4}{x} = \frac{6}{x+3}$$

$$5) \frac{x-4}{x+8} = \frac{2}{5}$$

$$6) \frac{14}{x+1} = \frac{10}{x-5}$$

Solve Word Problems with Proportions

Video Help: <http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/v/find-an-unknown-in-a-proportion-2>

- 7) A 12-ounce bottle of shampoo lasts Ethan 16 weeks. How long would you expect an 18-ounce bottle of the same brand to last him?

- 8) About 17 out of 20 homes in Smallville have a laptop computer. On a street with 60 homes, how many would you expect to have a laptop computer?

9) The waiting time to ride a roller coaster is 20 minutes when 150 people are in line. How long is the waiting time when 240 people are in line?

10) Of the 50 fish that Jim caught from the lake, 14 were trout. The estimated population of the lake is 7,500 fish. About how many trout would you expect to be in the lake?

Find the Rate of Change

Video Help: <https://learnzillion.com/lessons/3509-determine-rate-of-change-in-linear-relationships>

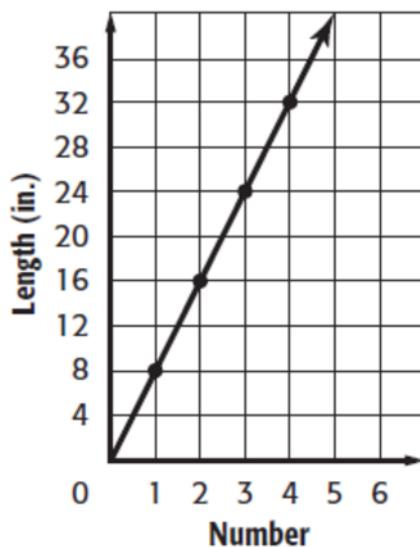
11) Find the rate of change in the table below.

Students	Number of Textbooks
5	15
10	30
15	45
20	60

12) Find the rate of change in the table below.

Side Length	Perimeter
1	4
2	8
3	12
4	16

13) Find the rate of change from the graph.



14) Find the rate of change from the graph.

